

Developmental Psychobiology

The Official Journal of the International Society for Developmental Psychobiology

Volume 23, 1990

EDITOR

JEFFREY R. ALBERTS Department of Psychology, Indiana University

ASSOCIATE EDITORS

MICHAEL LEON Department of Psychobiology, University of California

ESTHER THELEN Department of Psychology, Indiana University

CONSULTING EDITORS

C. Robert Almli
Heidelise Als
Arthur P. Arnold
Patrick Bateson
Anne C. Bekoff
Elliott M. Blass
Stephen C. Brake
C. Sue Carter
Rachel Keen Clifton
Carol O. Eckerman
Bennett G. Galef, Jr.
Lincoln Gray
Megan R. Gunnar
W.G. Hall

Norman D. Henderson
Myron A. Hofer
Warren G. Holmes
William A. Mason
Ronald W. Oppenheim
Stephen W. Porges
Leonard A. Rosenblum
Jerry W. Rudy
William Smotherman
Norman E. Spear
Donald J. Stehouwer
Gerald Turkewitz
Meredith J. West

Developmental Psychobiology (ISSN: 0012-1630) is published eight times per year, one volume per year, by John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158.

Copyright © 1990 by John Wiley & Sons, Inc. All rights reserved. Reproduction or translation of any part of this work beyond that permitted by Sections 107 and 108 of the U.S. Copyright Law without the permission of the copyright owner is unlawful. Second-class postage paid at New York, NY, and at additional mailing offices.

The code and the copyright notice appearing at the bottom of the first page of an item in the journal indicate the copyright holder's consent that copies may be made for personal or internal use, or for the personal or internal use of specific clients, on the condition that the copier pay for copying beyond that permitted by Sections 107 or 108 of the United States Copyright Law. The per-copy fee for each item is \$4.00 and is to be paid through the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970.

This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Such permission requests and other permission inquiries should be addressed to Permissions Dept.

Subscription price: \$230 per volume. Outside U.S.A.: \$298 (air service and handling included). Back volumes, microfilm, and microfiche are available for previous years; request price list from Publisher. Please allow four weeks for processing a change of address. For subscription inquiries, please call customer service at (212) 850-6645 or write to the above address.

Claims for undelivered copies will be accepted only after the following issue has been received. Please enclose a copy of the mailing label or cite your subscriber reference number in order to expedite handling. Missing copies will be supplied when losses have been sustained in transit and where reserve stock permits.

Postmaster: Send address changes to *Developmental Psychobiology*, Susan Malawski, Fulfillment Manager, Subscription Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158.

Advertising/Reprints: Inquiries concerning advertising and reprints should be forwarded to Ms. Tasi Manicas, Advertising/Reprints Sales, John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10158, (212) 850-6763. Advertising Sales, European Contact: Michael Levermore, Advertising Sales Manager, John Wiley & Sons, Ltd., Baffins Lane, Chichester, Sussex PO19 1UD, England.

Other Correspondence: Address all other correspondence to: Journals Production, Professional, Reference, and Trade Group, John Wiley & Sons, Inc., 605 Third Ave., New York, NY 10158.

Manuscripts should be submitted to the Editors, *Developmental Psychobiology*, Department of Psychology, Indiana University, Bloomington, Indiana 47405. Information for contributors appears in the first and last issue of each volume.

The contents of this journal are indexed in the following: *Biological Abstracts*, *Chemical Abstracts*, *Child Development Abstracts and Bibliography*, *Current Contents/Life Sciences*, *Excerpta Medica*, *Index Medicus*, *Psychological Abstracts*, *Science Citation Index*, and *The Psychological Reader's Guide*.

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, 1990

Volume 23, Number 1 January 1990

CONTENTS

- 1 Lateral asymmetry in attention for three-month-old human infants during face-to-face interaction with mother**
A. Fogel, J. Karns, and M. Kawai
- 15 Premature visual stimulation accelerates intersensory functioning in bobwhite quail neonates**
R. Lickliter
- 29 Sexual segregation in the left and right horns of the gerbil uterus: "the male embryo is usually on the right, the female on the left" (Hippocrates)**
M. M. Clark and B. G. Galef, Jr.
- 39 Development of head position preference during early infancy: a longitudinal study in the daily life situation**
B. Hopkins, Y. L. Lems, T. Van Wulfften Palthe, J. Hoeksma, O. Kardaun, and G. Butterworth
- 55 Quantitative analysis of eye movements during REM-sleep in developing rats**
E. J. W. Van Someren, M. Mirmiran, N. P. A. Bos, A. Lamur, A. Kumar, and P. C. M. Molenaar
- 63 Environmental factors and age of puberty in female house mice**
A. C. Drickamer
- 75 Effects of morphine and naloxone on play-rewarded spatial discrimination in juvenile rats**
L. Normansell and J. Panksepp
- 85 Effects of prenatal alcohol exposure on rat pup's ability to elicit retrieval behavior from dams**
J. W. Ness and J. J. Franchina

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 2 March 1990

CONTENTS

- 103 Behavioral Reactions to Gustatory Stimuli in Young Chicks (*Gallus gallus domesticus*)**
J. R. Ganchrow, J. E. Steiner, and A. Bartana

- 119 **Early Inhibitory Learning in the Rat I. Learning and Memory Development**
J. Mysliveček and J. Hassmannová
- 129 **The Ontogeny of Thermal Nociception in Domestic Fowl: Thermal Stimulus Intensity and Isolation Effects**
R. A. Hughes and K. J. Sufka
- 141 **Dopamine Antagonists Produce an Age-Dependent Increase in the Responding of the Young Chick**
J. F. Zolman and S. A. McDougall
- 157 **Effects of Undernutrition and Handling During Suckling on Shuttle Avoidance and Footshock Escape Behavior and on Plasma Glucose Levels of Young Rats**
J. B. T. Rocha and D. Vendite
- 169 **Artificial Rearing of Rat Pups Using Rat Milk**
E. Moore, C. Stamper, J. Diaz, and E. Murowchick
- 179 **A New Method for Delivering a Taste Without Fluids to Preterm and Term Infants**
T. R. Maone, R. D. Mattes, J. C. Bernbaum, and G. K. Beauchamp

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 3 April 1990

CONTENTS

- 195 **Cognitive Profile of Rats Exposed to Lactational Hyperphenylalaninemia: Correspondence with Human Mental Retardation**
B. J. Strupp, S. Himmelstein, M. Bunsey, D. A. Levitsky, and M. Kesler
- 215 **Differential Rates of Attack, Defense, and Counterattack During the Developmental Decrease in Play Fighting by Male and Female Rats**
S. M. Pellis and V. C. Pellis
- 233 **The Ontogeny of Antiphonal Calling in European Starlings**
M. Chaiken
- 247 **Behavioral and Immunological Consequences of Brief Mother-Infant Separation: A Species Comparison**
M. L. Laudenslager, P. E. Held, M. L. Boccia, M. L. Reite, and J. J. Cohen
- 265 **The Role of Age-Dependent Behaviors in the Retention of an Approach-Avoidance Response in Preweanling Rats**
F. B. Weihmuller and A. C. Collier
- 285 **Mother and Sibling Discrimination at a Distance by Three- to Seven-Day-Old Lambs**
R. Nowak

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 4 May 1990

CONTENTS

- 297 Activity Level and Auditory Responsiveness in Neonatal Chickens**
L. Gray
- 309 Responses of Infant Mice to Odors of Urine from Infanticidal, Noninfanticidal, and Paternal Male Mice**
R. W. Elwood, H. F. Kennedy, and H. M. Blakely
- 319 Ontogenetic Differences in the Expression of Odor-Aversion Learning in 4- and 8-Day-Old Rats**
J. S. Miller, J. C. Molina, and N. E. Spear
- 331 Morphine Treatment and Reproductive Condition Alter Olfactory Preferences for Pup and Adult Male Odors in Female Rats**
C. H. Kinsley and R. S. Bridges
- 349 Maternal Behavior Variations and Adaptations, and Pup Development within Litters of Various Sizes in Wistar Rat**
D. Deviterne, D. Desor, and B. Krafft
- 361 Selective Pup Retrieving by Mother Rats: Sex and Early Development Characteristics as Discrimination Factors**
D. Deviterne and D. Desor

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 5 July 1990

CONTENTS

- 375 Infant's Response to Social Separation Reflects Adult Differences in Affiliative Behavior: A Comparative Developmental Study in Prairie and Montane Voles**
L. E. Shapiro and T. R. Insel
- 395 Endocrine Responses to Mother-Infant Separation in Developing Rats**
C. M. Kuhn, J. Pauk, and S. M. Schanberg
- 411 Inhibition of Infant Glucocorticoid Stress Response: Specific Role of Maternal Cues**
M. E. Stanton and S. Levine
- 427 The Effect of Early Experience on Water Maze Spatial Learning and Memory in Rats**
R. C. Tees, K. Buhrmann, and J. Hanley

- 441 Striking Absence of Long-Lasting Effects of Early Color Deprivation on Monkey Vision**
E. Brenner, F. Cornelissen, and W. Nuboer

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 6 September 1990

CONTENTS

- 451 Commentary**
453 The Effect of Multiple Reminders on Long-Term Retention in Human Infants
H. Hayne
- 479 Weaning in Rats: I. Maternal Behavior**
C. P. Cramer, E. Thiels, and J. R. Alberts
- 495 Weaning in Rats: II. Pup Behavior Patterns**
E. Thiels, J. R. Alberts, and C. P. Cramer
- 511 Control of Intake by Human-Milk-Fed Infants: Relationships Between Feeding Size and Interval**
R. J. Matheny, L. L. Birch, and M. F. Picciano
- 519 Nest Temperature: Effects on Maternal Behavior, Pup Development, and Interactions with Handling**
J. E. Jans and B. C. Woodside
- 535 Acute Ethanol Contamination of the Amniotic Fluid During Gestational Day 21: Postnatal Changes in Alcohol Responsiveness in Rats**
M. G. Chotro and J. C. Molina

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 7 November 1990

SPECIAL ISSUE: The Idea of Innateness: Effects on Language and Communication Research

Guest Editors: Cathy H. Dent and Patricia G. Zukow

CONTENTS

- 551 The Idea of Innateness: Effects on Language and Communication Research**
C. H. Dent and P. G. Zukow
- 557 Innate Learning Preferences: Signals for Communication**
P. Marler

- 569 Terms of Endearment**
J. R. Alberts and G. J. Decsy
- 585 Communicating about Communicating: When Innate Is Not Enough**
M. J. West, A. P. King, and M. A. Duff
- 599 Language Acquisition in a Nonhuman Species: Implications for the Innateness Debate**
E. S. Savage-Rumbaugh
- 621 Structure and Stimulation in the Ontogeny of Spoken Language**
J. L. Locke
- 645 Innateness and Maturation in Linguistic Development**
K. Wexler
- 661 Input, Innateness, and Induction in Language Acquisition**
J. L. Morgan
- 679 An Ecological Approach to Language Development: An Alternative Functionalism**
C. H. Dent
- 705 Socio-perceptual Bases for the Emergence of Language: An Alternative to Innatist Approaches**
P. G. Zukow
- 727 A Cultural Model for the Acquisition of Language: Implications for the Innateness Debate**
S. Harkness
- 741 Commentary: The Idea of Innateness: Effects on Language and Communication Research**
Susan Oyama
- 751 On the "Pre" in Predetermined: A Reply to Oyama**
J. R. Alberts
- 753 A Reply to Susan Oyama's Commentary**
K. Wexler
- 757 Cranking Up the Capacity for Spoken Language**
J. L. Locke
- 759 Language, Thought, and Other Mutualities of Organization and Environment: A Reply to Oyama's Commentary**
C. H. Dent

DEVELOPMENTAL PSYCHOBIOLOGY

Volume 23, Number 8 December 1990

CONTENTS

- 763 Development of Coordinated Movement in Chicks: I. Temporal Analysis of Hindlimb Muscle Synergies at Embryonic Days 9 and 10**
N. S. Bradley and A. Bekoff

783	Voluntary and Involuntary Maternal Separation in Guinea Pig Pups with Mothers Required to Forage M. B. Hennessy and K. Sharp
797	The Effects of Opioid and Benzodiazepine Antagonists on Dam-Induced Reductions in Rat Pup Isolation Distress S. E. Carden and M. A. Hofer
809	Kinematic Variability and Relationships Characterizing the Development of Walking P. Lasko-McCarthy, A. Beuter, and E. Biden
839	Influence of Postnatal Maternal Stress on Blood Pressure and Heart Rate of Juvenile and Adult Rat Offspring E. Mills, J. W. Bruckert, and P. G. Smith
849	An Examination of the Intramodal and Intermodal Behavioral Consequences of Long-Term Vibrissae Removal in Rats L. A. Symons and R. C. Tees
869	Acknowledgment
873	Author Index to Volume 23
877	Subject Index to Volume 23 Contents for Volume 23

